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Gamma-ray spectroscopy of the ^{238}U shape isomer.¹ K. HAUSCHILD, R. W. BAUER, J. A. BECKER, L. A. BERNSTEIN, H. C. BRITT, W. YOUNES, *LLNL*, N. FOTIADES, *Rutgers U.* — The γ -rays de-exciting the fission isomers ^{236}U and ^{238}U are very different despite similar excitation energies, lifetimes and low-lying yrast structures. The predominant γ -ray decay branch for $^{236}\text{U}^m$ is a 1.783-MeV E1 transition², while $^{238}\text{U}^m$ is depopulated by a 2.513 MeV-E2 γ -ray³. Approximately 65% of the γ -branch de-exciting $^{238}\text{U}^m$ remains to be identified. To determine the multipolarity of the remaining γ -branch out of $^{238}\text{U}^m$, we used the GAMMASPHERE array at LBNL and the $^{238}\text{U}(\text{d,pn})$ reaction at $E_d=20$ MeV. A search for excited states in the 2^{nd} well has also been conducted. Preliminary results will be presented, and the γ -decay of the shape isomers discussed in context with the recent $A\sim 190$ SD decay-out results⁴.

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²J. Schirmer, et al., Phys. Rev. Lett. **63**, 2196 (1989); and Refs. therein.

³J. Kantele, et al., Phys. Rev. C **29**, 1693 (1984); and Refs. therein.

⁴T. L. Khoo, et al., Phys. Rev. Lett. **76**, 1583 (1996); A. Lopez-Martens, et al., Phys. Lett. **B380**, 18 (1996); K. Hauschild, et al., submitted to Phys. Rev. C (1996).

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☐ Prefer Poster Session

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